

Hamline University DigitalCommons@Hamline

School of Education Student Capstone Projects

School of Education

Spring 2019

Personalized Core Vocabulary Books In A Federal Four Special Education School

Carley Hoffman

Follow this and additional works at: https://digitalcommons.hamline.edu/hse_cp

 Part of the [Education Commons](#)

Recommended Citation

Hoffman, Carley, "Personalized Core Vocabulary Books In A Federal Four Special Education School" (2019). *School of Education Student Capstone Projects*. 283.

https://digitalcommons.hamline.edu/hse_cp/283

This Capstone Project is brought to you for free and open access by the School of Education at DigitalCommons@Hamline. It has been accepted for inclusion in School of Education Student Capstone Projects by an authorized administrator of DigitalCommons@Hamline. For more information, please contact digitalcommons@hamline.edu, wstraub01@hamline.edu, modea02@hamline.edu.

PERSONALIZED CORE VOCABULARY BOOKS IN A FEDERAL FOUR SPECIAL
EDUCATION SCHOOL

by

Carley Hoffman

A capstone submitted in partial fulfillment of the requirements for the degree of Masters of Arts
in Teaching

Hamline University

St. Paul, Minnesota

May, 2019

Primary Advisor: Patty Born and Vivian P. Johnson

Content Expert: Maggie Anderson

Copyright by
CARLEY HOFFMAN, 2019
All Rights Reserved

Dedication Page

To my husband, who supported me throughout this journey. I am lucky to have you by my side, even when I decide to take on a massive feat like getting my Masters. Thank you for

motivating me and supporting my dreams. To my parents, thank you for instilling a love of learning and the desire to help others. And to my students, you are little munchkins of happiness and potential, you are capable of anything!

TABLE OF CONTENTS

Dedication.....	3
CHAPTER ONE: Introduction.....	6
Context.....	7

Rational.....14

Project Overview.....15

Conclusion.....16

CHAPTER TWO: Literature Review.....18

 Introduction.....18

 Core

Vocabulary.....19

 Picture Exchange Communication System (PECS).....23

 PECS and Autism Spectrum Disorder (ASD).....24

 Phases of Acquisition.....25

 Limitations of PECS.....27

 Personalized Books.....28

 Benefits of Utilizing Personalized Books.....30

 Literacy Related Outcomes: Spontaneous Speech.....31

 Literacy Related Outcomes: Self-Referencing.....32

 Conclusion.....32

CHAPTER THREE: PROJECT DESCRIPTION.....34

 Overview.....34

 Framework.....35

 Setting and Audience.....36

 Project Description.....38

 Timeline.....39

 Conclusion.....40

CHAPTER FOUR: CONCLUSION.....	41
Introduction.....	41
Information Gained.....	42
Summary of Literature Review.....	44
Implications for Profession.....	48
Limitations.....	49
Benefits of Project.....	50
Conclusion.....	51
REFERENCE LIST.....	53

CHAPTER ONE

Introduction

Fundamental Question

Language and the development of language are important for daily communication and interaction with the world. Students who are nonverbal or are early communicators need additional assistance to acquire language and use their language functionally. Students and individuals who are nonverbal or are early communicators have devices and programs available to them like dynavox, an Ipad with PODD app or Proloquo2go. My project's focus is to discover what attributes of personalized books help students acquire core vocabulary words. The goal of my research is to determine if providing personalized core vocabulary books to students in a special education classroom support their retention of core vocabulary words. The question I would like to answer is, *what are the attributes of personalized books that could help students in a special education setting acquire core vocabulary?*

The journey towards my interest in special education has many parts. Sections of the chapter describe my journey to becoming a special education teacher and how this has influenced my project. My personal experiences also contribute to the development of my research question.

As I begin to explore this question, I reflect on my personal and professional experiences as well as my teaching experiences with vocabulary acquisition and personalized books. Chapter One focuses on my experiences that led me to the development of my capstone research question. In the following section, I will describe powerful personal experiences and how they intersect with my research topic.

An Intersection of Lived Experience and My Research Topic

There are two reasons why my research question is important to me. One is my own experience as a K-5 learner. The second is my experience working with a student with special needs in a figure skating class.

First, my experience as a learner makes this topic important because of how direct instruction, or explicit teaching, benefited me as a learner. Growing up from 2002-2005, I was in multi-age classrooms until 5th grade. Multi-age classrooms in my districts included four classrooms that were in addition to the regular pods of grade level students. One classroom in the multi-age area served students Kindergarten and 1st graders, a second was 2nd and 3rd graders, a third being 3rd and 4th graders, and the final classroom was 5th and 6th graders. During this period of time, many events were happening in my young life; my father was deployed to Afghanistan during my 1st and 2nd grade years. Being young and not understanding all that was happening around me, I was confused as to why my dad would “leave” us. I became very angry and anxious because of this big life change. At school I was struggling with maintaining friendships from the anxiety and anger that I was feeling. In addition to my anxiety, I was also struggling with homework and was not learning like others in my class. Because of my slow progress in school, I was enrolled in special education services. Once receiving services, I seemed to develop more confidence around reading and math; it was a huge step for me as a learner. Looking back on this experience, I realize that I was given personalized educational attention and the direct instruction that I desperately needed to succeed.

After my father returned from Afghanistan, things returned back to normal for a few years. In the early spring of 2009, my mother fell at our home on some ice on the sidewalk. My brother and I were the only ones home as my father was receiving treatment at the veterans hospital an hour away. When we went out for the bus that morning, we found my mother lifeless and covered in her vomit outside. Being only thirteen and my brother eight years old, we had

trouble moving my mother in from the freezing cold. We managed to get her into our home and knew to call 911. We have never been so scared in our entire lives, we thought we would never be able to speak to her again. My mother was airlifted to the regional medical center from our small town airport. My brother and I were left with a family friend as we waited on family to come up to our home. Later that day, we found out that our mom had a traumatic brain injury but had no broken bones or internal bleeding, she was extremely lucky. My brother and I were very happy, as with time, she would make a full recovery.

After 10 years, my mom has made a near-full recovery. She has worked hard through her extensive occupational therapy along with physical therapy and neurology appointments, she is able to function on her own in my parent's home. Having gone through this experience, it made me grow up faster than my peers, but also made me more compassionate towards others.

During my school years, I was also a competitive figure skater, I competed around the state where I lived in the Midwest. I am proud of my accomplishments, but not near as proud of how I impacted a little girl, whom I will call Amelia, to protect her identity. Amelia was diagnosed with Down Syndrome and also was enrolled in my club's basic figure skating skills program. One snowy day in January 2010, I began to interact with Amelia. We began to skate together and it was an instant friendship. Until then, in my freshman year of high school, it had never crossed my mind that I was "cut out" for being a teacher of anything. I did not believe that I had the patience, know-how, or passion to teach others. Amelia changed that.

Every Sunday and Wednesday, we would meet at the rink and skate for an hour together. I remember how she would look up at me and smile as we skated around the rink. I felt proud of her every single day we were together as she progressed her skills, confidence, and most of all her strength. Eventually, Amelia made it to a level where she could enroll in a competition. She

was so happy that she was going to “get a big trophy” and “wear ‘Carry’s’ dress.” She always had trouble with pronouncing my name so she came up with different names like, “girlfriend,” “Carry,” or “Car.” When we participated in competitions together it did not matter if she fell, did not skate to her music, or made up a different program than what was originally planned, she got a standing ovation. I have never been more proud in my life than seeing her skate and seeing the reactions from others because she skated well. Amelia became my inspiration. Amelia, thank you for opening my eyes to the wonderful world of Special Olympics and special education.

Having these experiences growing up, it made me open to helping others and also very compassionate. While in high school, I knew that teaching, specifically teaching special education, was something that would be my calling and my research interest developed as a result of working with this population, including learners who are nonverbal.

Becoming a Teacher and its Influence on the Project

Growing up, I did not imagine myself as a teacher. Instead, as I was growing up my assumption was to be like my parents, either a successful lawyer or an engineer. Just like any parent, my parents wanted what was best for my brother and I. They enrolled us in piano lessons, swimming lessons, boy and girl scouts, and any volunteer opportunity around our small town. This instilled a love for helping others. My parents were there to support my brother and I in anything we did whether it was school or sports related. Going through elementary school was difficult for me as I struggled in class and did not like attending school. Though elementary and middle school had its ups and downs, I had a few great teachers in middle school that changed the way I looked and felt about school. In my own classroom today, I strive to be like those influential teachers I had.

My teaching career started in the 2017-2018 school year at a special education federal four school district in the upper Midwest where students spend 50% or more of their school day at the specialized setting. The school serves students from kindergarten to 7th grade, but the district serves students from kindergarten through age 21. The district is unique as it serves students from 14 different districts around the area. My classroom primarily serves students kindergarten through 2nd grade, with the student's primary disability category being Autism with a secondary disability category of emotional behavior disorder (EBD) or a speech-language diagnosis. I love my district because of how student-centered it is— whatever students need to be successful in school, a student will receive.

The students in my classroom come to school with a variety of needs such as social-emotional, behavioral, academic and physical needs. Many students in my neighborhood, or sections of the school that are grouped by student's disability categories, are nonverbal or limited communicators; they utilize I pads for their communication needs. In addition to this, some of the students served in our school also have trauma backgrounds and unstable home lives. Some students can exhibit behaviors that may be harmful to themselves or others. Many of them cannot explain why they are acting this way but do not have a way of communicating their frustration, wants or needs in an appropriate or adequate way.

During the school day, staff are taken away from our room to help our students regulate their bodies if they have had a behavior that has taken them out of the room. The following vignette is an example of how fast a behavior incident can happen and the typical response from staff.

Teacher: Students, I am going to pass out your writing books, please grab your pencils on your desk. Today we will be using the smartboard as well!

Student: No, (expletive), no work, no!! *Student gets out of their desk and lunges at a nearby student. Additional classroom staff steps in to be near students. Staff prompt student to sit back down so he can have a turn with the smartboard.*

Teacher: “Andrew”, it looks like you are upset, you can either take a break or we can take a walk in the hallway. Maybe we can go see “Ms. Morgan”? I know you like to see her.

Student: No! *Student throws a chair and begins kicking at staff. Staff has to physically escort student out of the classroom for the safety of others. The student is brought into a break out space to calm down. Student does not calm down, his behaviors are escalating, including screaming, swearing, urination, and being aggressive toward staff. Staff walkie for back-up as there are not enough staff in the original classroom. The staff and behavior analysts attempt to console the student, but his behavior continues for over an hour with no sign of letting up.*

The situation that is described happens with students many times a day in our classrooms. Behaviors like this are common within my school as students are learning how to successfully navigate the school building and expectations while also learning how to express their emotions and feelings in a positive, healthy way.

Providing instruction between these times of disruption is at times difficult. To work around this, teachers must prepare lessons that grab students attention, appear to be something that the student can do, and also get right to the point. Some of my students can work independently after being given directions, while others need more one-on-one support.

During instruction times, my students are working on letter naming skills including using different teaching strategies that allow them to use their name in a variety of ways. Some of the teaching strategies my students seem to enjoy are using file folders or task boxes that incorporate their name. They also enjoy doing different sensory activities, such as using shaving cream for

writing practice or for relaxation. With the inclusion of these activities, their engagement, and excitement to learn increase. Work times that include these types of activities always seem to be more successful. However, one activity that was not a success was core vocabulary work as it seemed to be difficult to grasp for students.

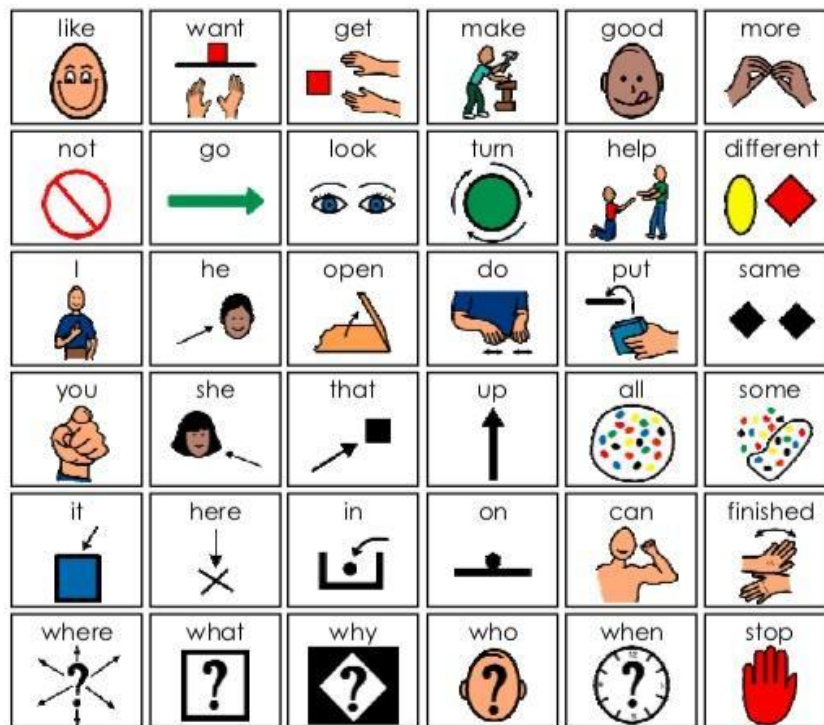
Classroom vocabulary work consisted of teaching core vocabulary words which are as Cannon and Edmond (2009) described, “ a small set of unchanging words that are used across contexts. Core vocabulary is a fundamental concept and is a way of designing low and high tech materials that maximize and enhance student communication and language learning” (p. 20). The authors note how core vocabulary can be a strategy that can and should be implemented across all environments in a school. In my classroom, core vocabulary is taught through a variety of ways depending on the student’s ability to attend to classroom instruction and their need for accommodation. My students have been explicitly taught literacy-based concepts such as what letters look like, what each sounds like, and simple beginning and ending sounds. Most of my students can identify 10-25 Kindergarten sight words. However, every student is unique. One of my students can identify 30 or more grade level sight words, while other students do not have the skills yet to learn and identify sight words. Each student has repeated exposure and immersion in phonemic awareness, or the ability to hear, identify and manipulate the sounds of letter units.

Some of the difficulty of teaching core vocabulary in my classroom setting is that while many of my students could read and identify some of the symbols of the core vocabulary board, many of them could not apply the words in a functional way. For example, if a student was to be asked if they needed to use the restroom, the student, using their core vocabulary board would answer, “I like bathroom” instead of saying, “I want bathroom”. The difficulty with teaching

core vocabulary is the reason behind my capstone research question and my project. Below is a picture core vocabulary tool used in my classroom (Figure 1).

Figure 1. Example of the 36 location Universal Core vocabulary communication system represented by Picture Communication Symbols© by Mayer-Johnson. Used with permission.

Given the issues with core vocabulary instruction, my research and project is geared toward supporting the creation of materials to help my students in using the core vocabulary board for communication of their wants and needs. This will potentially solve an issue in my



classroom and make my students more successful in the process.

My current reality as a special education teacher, as well as my observations that students are more engaged when teaching strategies incorporate their names, and the research that I have completed, I am left with the question: *what are the attributes of personalized books that could*

help students in a special education setting acquire core vocabulary? In the following section, I will describe my professional experiences and how they intersect with my research topic.

Development of Research Interest

According to Cannon and Edmond (2009) “Serving students who are nonverbal is a challenge. It is necessary to provide these students with ways to communicate so that they can answer academic questions and participate in the social communication of school” (p. 20). Working with the particular population that I do, I experience first hand how important communication is for my student’s to learn and master. My students are nonverbal or have limited communication, increasing their communication is one of the main goals in their individualized education plans (IEPs). Using core vocabulary is something that I am passionate about because it provides a set of words and sentence makers for each student to use to increase their interaction with the world around them. By utilizing core vocabulary with my students who are acquiring language, I think that their language and the rate in which they acquire language could increase. Communication is something that happens every day, whether it is verbal or non-verbal. The importance of developing new ways to support the teaching of communication skills is important in my classroom and to others involved in this work.

Significance of This Capstone Project Within and Beyond My Professional Context

The significance of my research extends beyond just my classroom. My research and development of personalized core vocabulary books can inform future actions in other school districts with teachers who wish to increase their student’s core vocabulary usage and development of language. My project also has the potential to impact a student’s ability to interact and communicate with the world around them.

With the completion of the project, it provided me with another strategy to teach core vocabulary words in a different way that could be more engaging to my students. The books that were created could enable students to retain language and independently use it when they have access to an augmentative alternative communication device, such as a dynavox, Ipad with PODD app, or proloquo. Students begin using simplified versions of these devices and as they get older and more successful with their communication more options can be added such as typing or additional word options. In addition, the benefits of this project can be used by other teachers in my district. Our district has chosen to focus on literacy development for the next five years. This makes my area of research not only significant but practical. Increasing the development of language with students who have limited language is crucial to my colleagues and I, as many of us have students whose lack of language create behaviors because they cannot adequately express themselves.

My capstone project can also be important for other districts wanting to build their own Federal Setting Four program. Developing these programs is based on many variables, but one of the most important variables is student learning. To demonstrate learning, students need to be able to express themselves in some manner. That manner is usually through words, whether spoken or through an alternative device. With the research, my goal is to demonstrate how school districts can implement these different strategies in a Federal Four school. School districts can also see three different students, at very different levels of acquiring language and how using a combination of augmentative alternative communication devices and core vocabulary books can aid in the acquisition of language.

Conclusion

Supporting students that come to school with a wide variety of needs can be a challenge for any teacher. Providing a way to adequately express one's self is an added element of teaching students with mild to severe disabilities. Using core vocabulary in conjunction with personalized core vocabulary books could increase the number of words and phrases that students can master and are able to appropriately use. Providing these books in accordance with tested strategies for implementation has the potential to improve core vocabulary outcomes for students in my classroom.

Combining my professional experience with core vocabulary instruction and research, I explore the question; *how do personalized books help students acquire core vocabulary words in a special education setting?* Continuing into Chapter Two in my capstone project, I will provide a literature review of core vocabulary, core vocabulary strategies for implementation, word acquisition, and personalized books for students. Chapter Three will focus on the personalized core vocabulary book development and how it will be implemented and evaluated. Finally, Chapter Four will contain the books that I developed and evaluations of the books. I will also describe the limitations and future recommendations concerning my books.

CHAPTER TWO

Literature Review

Chapter Overview

The purpose of this study is to discover what attributes of personalized core vocabulary books help students acquire core vocabulary words. This project examines the use of personalized books as one of many strategies to teach and implement core vocabulary as a way of communication. The goal of my research is to determine if providing personalized core vocabulary books to students in a special education classroom support their retention of core vocabulary words.

Research on attributes of personalized core vocabulary is significant because of the implications for special education teaching practices. By completing this research project, it will provide educators with another strategy to teach core vocabulary that may be more engaging to students. The books from this project will enable students to retain language and then independently use their knowledge and skills when they have access to an augmentative

alternative communication device, such as a dynavox, Ipad with PODD app, Proloquo2go or a low-tech aid like Picture Exchange Communication Systems (PECS).

This chapter provides an overview of the literature on core vocabulary, explains the significance of the Picture Exchange Communication System, PECS, training along with the phases of acquisition, benefits, and limitations of these strategies. Finally, this chapter reviews the attributes of personalized books, the benefits of using personalized books in an educational setting, as well as some of the literacy outcomes from using these types of books.

Core Vocabulary

Cannon and Edmond (2009) describe core vocabulary as a set of 36 unchanging words that are used across an individual's environment. The 36 words making up core vocabulary contains all parts of speech- nouns, pronouns, verbs, adjectives, etc. and serves as a great medium for teaching language. Words like “big,” “little,” “give,” “go,” and “you” are examples of core vocabulary words that are used by all individuals every day in multiple situations. Core vocabulary is a fundamental concept that is used to enhance student communication and language learning. Core vocabulary can be used in a variety of environments and subjects. Using core vocabulary enables students to communicate easily within their environment.

Cannon and Edmond (2009) describe in their article, *A Few Good Words*, that implementing core vocabulary can be done in a few ways, the two most useful applications include paper books and on a students device such as an Ipad. Cannon and Edmond (2009) describe a three-ring binder approach to using core vocabulary,

a page containing core vocabulary is always on the left side and a page with content vocabulary is always on the right side of the set... This arrangement supplies the student

with the needed content words while always allowing immediate access to core vocabulary. (p. 22)

They go onto describe how using this arrangement supplies the student with necessary content words, such as bathroom, snack, water, desk, work, etc. while always allowing immediate access to core vocabulary.

Cannon and Edmond (2009) describe how presenting core vocabulary and content words in this way can help students begin to understand and use different language forms and construct sentences in addition to communicating their wants, needs, and academic responses (p. 22). They also describe a different strategy for teaching and implementing core vocabulary using a simple page presentation of the words. They describe how they stick to a simple single page design:

. . . important words are displayed on one unchanging page instead of on multiple overlays. The advantages of this simple method is that core vocabulary stays in the same place, reducing the need to visually scan the choices and understand picture meanings.

(Cannon & Edmund, 2009, p. 22)

Presenting core vocabulary and content words in the same place means that students are able to plan their motor movements, leading to quicker, more efficient communication. In my classroom, students have access to their core vocabulary boards either on a single sheet board on their desk or on a 36 voice output button board on their iPad. The buttons that are on the communication app have a picture symbol and, depending on the students academic and communication ability, the word of what the button will say.

Students and teachers can use core vocabulary during regular classroom routines. One routine that core vocabulary can be heavily utilized is during meal times. Meal times can be a

very motivating time for students; teachers can utilize this opportunity to model, use and teach core vocabulary words.

For example, if a student says, “Open” using either their voice or pointing to their core vocabulary board, a teacher could respond simply with, “Open” while pointing to the picture. The goal for students is to expand their communication, to do this, teachers should repeat what the student has said and then model how to add a little more (Embedding Communication Throughout the Day, Project Core, 2010) For example, the teacher could say, “You want open.” All of these words are on the core vocabulary board and expand on what the student was saying. Other possible reasons for communication during meal times could be to share information, comment, request food or help, obtain more, or interact with teachers and peers. Some ways teachers can facilitate the use of the core vocabulary board words include, “it good/not good” “like, not like it”, or “finished.” Other examples of requests include, “help,” “open,” “want more” or “put on.”

Pictured is an example of a core vocabulary board with the full 36 core vocabulary words. These boards can use used with the full 36 words or it can be tailored with fewer words to meet students at their communication needs (See Figure 1).

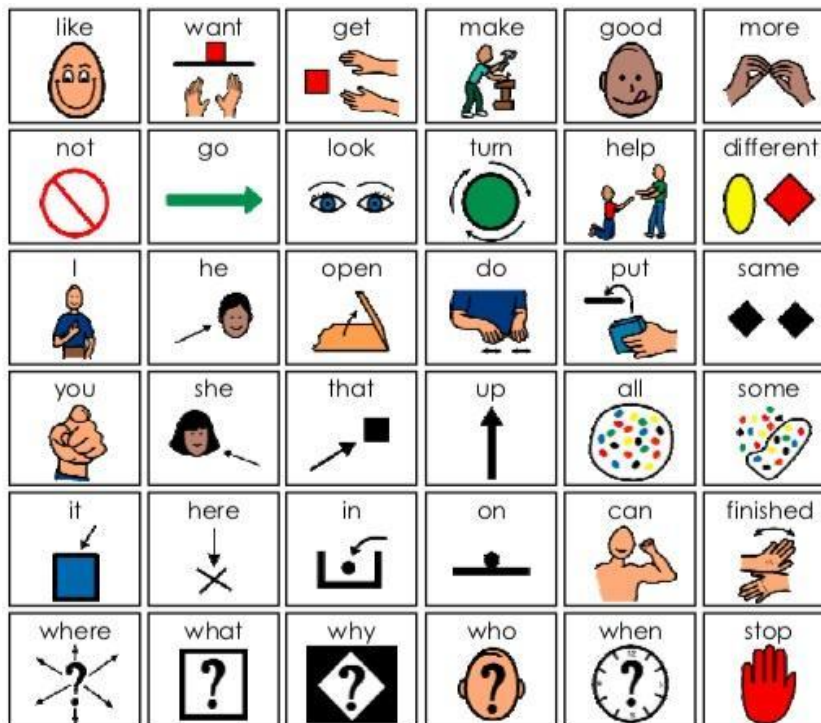


Figure 1. Example of the 36 location Universal Core vocabulary communication system represented by Picture Communication Symbols© by Mayer-Johnson. Used with permission.

The core vocabulary board used in many special education classrooms is called a Universal Core vocabulary board. In my experience, the Universal Core Vocabulary board will be very unfamiliar to many students. When seeing the board for the first time, my students did not know how to utilize it and became confused and upset. I suspect this is the case in many special education classrooms so explicit teaching and modeling using the core vocabulary board is crucial for a student's success and achieving the long term goal of improving communication skills.

It is important to remember that many students who are learning to use Core Vocabulary have limited verbal communication skills and do not see others (their peers, family, teachers) communicating by pointing or selecting symbols for communication. Many students and others

with limited verbal communication are listening to people communicate with spoken language or sign language, or a mix of both. This makes modeling the symbols and words across environments necessary. As mentioned on the project-core website's video about teaching and modeling core vocabulary, "Teachers are to encourage communication through the Universal Core Vocabulary Board, but not require it" (Teaching and Modeling Universal Core, Project Core, 2010) In my classroom, teachers and educational assistants have access to core vocabulary through Universal Core Vocabulary boards, communication apps on an Ipad, and Picture Exchange Communications Systems (PECS).

As mentioned in the Teaching and Modeling video (2010), it is important to avoid phrases like, "Show me the . . . , Where is the?, Find the" as these phrases and prompts can feel like a test and focus on the student's ability to locate symbols instead of communicating. Instead, the video recommends that teachers focus on having the student tell you more and focus on meaningful use of the core vocabulary board and providing ample wait time. Ample wait time is recommended as often students with limited communication skills also have a processing time that is much longer than our own. The video recommends a wait time between 10-30 seconds, but students may have longer processing times.

To maximize the teaching and learning process, each student, teacher, and educational assistant should have constant access to a core vocabulary board. As mentioned in the video, when educators first begin to model and teach with the core vocabulary board, they need to begin with all 36 words. This is important to be able to model at least two words in each interaction. In addition to the educator using the board themselves, the video highlights how important it is to show students how to use it - "Repeating exactly what a student has said and then expanding on

it by adding two or more words” by doing this you are showing how students can expand their vocabulary” (Teaching and Modeling Universal Core, Project Core, 2010*).

Finally, Project Core at the Center for Disability and Literacy studies (2010) stated while teaching with Core Vocabulary and selecting new words to teach, the activities should vary in length, and include engaging, interactive portions for students and teachers. The goal of this project is to support the development of acquisition of core vocabulary by adding personalized books to practice core vocabulary. This new teaching strategy is supported by research related to how shared reading supports word acquisition (Kucirkova, Messer, & Whitelock, 2014).

Core vocabulary and the use of a pictorial based communication system can be beneficial to students with special needs. In the following sections, I provide a look into what a picture communication system is along with the phases of implementation, how the system benefits students with autism, and the limitations.

Picture Exchange Communication System (PECS)

Core vocabulary is often used with the Picture Exchange Communication Systems, or PECS, as it can create a wide variety of thoughts, express a student’s needs, and can help to carry on a conversation. PECS is a behaviorally based pictorial communication system designed for children with social-communicative deficits (Flippin et al., p. 179). By utilizing PECS, educators and service providers are able to target expressive communication skills through the training of requests and, later, comments. As Bondy and Frost (1994) describe, “Children using PECS are taught to approach and give a picture of the desired item to a communicative partner in exchange for that item. By doing so, the child initiates a communicative act for a concrete item within a social context.” (p.3). Students are often prompted to give pictures for items they would like as it shows that communicating one’s needs and wants is a positive experience. I have found

that a student's confidence can increase because they are realizing pictures and phrases available to them have meaning.

PECS and Autism Spectrum Disorder (ASD)

Autism has three core characteristics that include deficits in social relationships and interactions, communication, and restrictive, repetitive and stereotyped behaviors. A delay in language is an early and persistent marker of autism, Flippin et al. (2010) estimated that approximately 25% of children with autism do not develop functional speech. As a result of this, the need for early and effective communication training for children with autism is clear (Flippin et al., 2010). There are a variety of different communication strategies available; it is understandable that clinicians are often faced with a trial and error period of selecting the right communication training for their client. From Flippin et al.'s (2010) article and personal experience, the variability in language outcomes for children with ASD make it difficult to predict which children will go on to develop speech and which students will require the use of augmentative and alternative communication like PECS. Along with the uncertainty of which children will develop language, it is also a question of how students on the spectrum will respond to differential intervention like PECS. As Flippin et al. (2010) note, "To date, there are no clear guidelines for clinicians in determining which communication strategy is likely to be effective for individual children with ASD" (p. 178).

The next section will describe the phases of acquisition for PECS and how the materials made with this capstone fit into the phases.

Phases of Acquisition

In the PECS program, a child's expressive communication abilities are shaped via the use of reinforcement, delay, and generalization across different communicative partners and settings (Flippin et al., 179). PECS training consists of six phases. In Phase one, The Physical Exchange, two service providers physically prompt the child to exchange a single picture for a preferred item. Phase two, Expanding Spontaneity, a communication book is introduced, increasing distance is placed between the child and the communicative partner. In this phase, the child is required to get a picture symbol for his or her communication book and travel to the communicative partner to request an item. In Phase three, Picture Discrimination, the child must discriminate between two picture symbols, such as a highly desired and a non-desired item. In Phase four, Sentence Structure, the child makes a request by building and exchanging a two-picture-sequence sentence with an "I want" symbol plus a picture symbol for the preferred item. In Phase five, after the child has requested by giving the sentence strip, the communication partner provides the verbal model "I want..." and uses a time delay before labeling the requested item and handing the sentence strip and requested item back to the child. The last phase, Phase six, students are responding to the question, "What do you want?". In this phase, the communicative partner introduces the verbal prompt, "What do you want?" As Phase six intervention continues, a time delay is incorporated between the verbal prompt and an additional gestural prompt toward the "I want" picture symbol (Flippin et al., p. 179).

The books that are being created for this project best fit in stages one, two and three. In these stages students are learning about what the differing core vocabulary words mean and words such as "like" are used to communicate with the child about what they like and do not like.

In the next section, an overview is provided on some of the limitations of using PECS for individuals with communication needs.

Limitations of PECS

Practitioners, educators and parents alike can find ease with the implementation of PECS. The ease in which individuals can implement PECS is why they have become so popular for social-communication-training systems for children with ASD (Flippen et al., 2010). In addition to being easy to implement, PECS does not require that students master prerequisite skills like eye contact, gestures, and verbal imitation prior to beginning PECS training (Flippin et al., 2010).

Like any program there are potential limitations, PECS training program does include a few limitations for students and practitioners. One limitation of PECS is that the communicative functions are restricted in range, meaning that PECS primarily consists of requests. Students are only trained to “comment” in the final phase of the training. As explained in Flippin et al.’s (2010) article in the American Journal of Speech-Language Pathology, comments are defined in the program as responses to adult prompts, learned by shaping and rewards. PECS training does not include steps to specifically guide the child to initiate with picture communication symbols to share interests with others (Flippin et al., 2010, p. 179).

An additional limitation of PECS training is that “other communication functions that develop early among typically developing children, such as protests and refusals, are not directly targeted in PECS” (Flippin et al., 2010, p. 180). This means that although PECS trains discrimination between preferred and nonpreferred items, the standard PECS protocol does not provide a built-in method for directly indicating that an item is not wanted.

A final limitation of the PECS program is that while PECS is widely used in special education settings and in speech-language settings, clinicians and educators setting up the system will find that it is labor intensive. The preparation of picture symbol books which include the best practice of printing, lamenating, and adhering velcro to the printed symbols to be very labor intensive, and when using the books, the preparer could inadvertently limit vocabulary choices for students utilizing the PECS approach. Although this process of preparing the materials can be labor intensive, teachers and practitioners do not have to keep preparing the materials over and over as the lamination extends the life of the PEC symbols.

The next section will focus on personalized children's books. Various research examples and studies have been provided to show a relationship between personalized books and vocabulary acquisition. With the creation of the core vocabulary books, I will be utilizing what researchers have found about personalized books and vocabulary growth.

Personalized Books

Gutnick et al. (2011) describe how personalized books have recently received considerable attention from educators and parents since there has been a rapid progression in technology-mediated personalized learning environments. Personalized books are defined by Kucirkova et al. (2013) as books that are customized for a specific person; this can vary from highly personalized books that are written specifically for a particular child (e.g. Pakulski & Kaderavek, 2004) to books that have basic personal information about the child such as their name embedded in the narrative (p. 229). With the multitude of new technologies available, the possibilities for personalizing children's reading materials are easier and more accessible than before. The capstone project that will be described in Chapter Three focuses primarily on the

books including basic personalized information from students including likes and dislikes and personalized life events and situations.

A digital story making apps like Version 1.31 of the Our Story (2015) app makes embedding children's information like their name, favorite color, character, or animal or picture into books simpler (p. 229). Hartley (2007) describes how personalized learning environments are known to motivate children in educational activities, and can engage their interest in educational resources. Evidence of this has mostly come from special populations, for example, Sheehy (2002) found that children with severe learning difficulties achieved higher word recognition scores when they were taught new words with a personalized mnemonic approach that with other non-personalized methods. Sheehy's methods included teaching children to recognize different symbols as words and then cueing the student to read these logographic symbols. When Sheehy's article was written in 2002, she pulled from earlier research that gave educational advice that recommends the use of symbols to teach word recognition. Though the use of symbols has been well documented, Carpenter & Detheridge (1994), find that replacing words with symbols to still be controversial. They state,

such studies rarely make comparisons with control groups of the simple repeated presentation of words alone. The results of controlled students reveal that while children recognize symbols readily, this learning does not support later transfer to word recognition. (p. 228)

Being mindful of how clinicians and educators present symbols as a replacement for words is necessary as previous research can support the use of symbols, but only to a point.

Personalized books can be a great way to engage students in reading, some of the benefits of personalized books are listed below. Books that include a students name and personalized

information can be linked to an increase in a child's self-esteem (Haussler, 2017) and other noted benefits.

Benefits of Utilizing Personalized Books

Haussler (2017) describes through her blog two important benefits of using personalized children's books. Haussler's first noted benefit is related to self-esteem. She mentions how personalized children's books can build self-esteem and boost confidence because:

in seeing themselves as the star of the story, they are assured or reassured that they are important. And, as they see themselves taking on these adventures they believe that they can do great things and overcome obstacles that they may face. It gives them the little boost they need to remember that they are special! (p. 2)

The second benefit of personalized storybooks Haussler (2017) talks about is how the use of personalized books can encourage reading.

She notes that when children see their name in the story, they can be more interested in the story, promoting more reading. As a classroom teacher, the biggest benefit of having children read more is how it supports the development of language and comprehension. Haussler (2017) theorizes that by encouraging the child to read more often, they will potentially be able to improve their reading skills. In her blog, Haussler (2017) notes many positives of using personalized children's books that not only potentially increase a children's academic abilities

but also their self-esteem with reading. Kucirkova et al. (2014) also support the use of personalized books to encourage reading.

Kucirkova et al. (2014) also explained that children who were read the personalized *I Like Me!* (1988) books made greater gains on a number of literacy and social skills measures, including reading comprehension and reading recall, in comparison with the children who were read traditional stories or stories similar to those of *I Like Me!* books, but with no reference to the child. In addition to the described benefits of personalized books on a child's self esteem, personalized books also benefit a child's literacy outcomes.

Literacy Related Outcomes: Spontaneous Speech

According to Kucirkova et al. (2014), "children's spontaneous speech during shared book reading is a good proxy for assessing children's active participation in a literacy activity and one of the best predictors of children's subsequent gains from book reading" (p. 46). An additional author, Moschovaki (1999), argues that a children's spontaneous verbal participation during book reading is an important indicator of their readiness to learn and can shine a light to the child's thinking and cognitive maturity. Outcomes like a "the quantity of the speech produced" can be measured with personalized books as cited by Kucirkova et al. (2014). The more the child participates in reading books, the more they will be ready to read and engage in higher order thinking.

The authors also discussed whether there is a correlation between personalized features of books and non-personalized materials and the effect on the rate of spontaneous speech.

Kucirkova et al. (2014) and Moschovaki (1999) determined that the influence of personalized material and spontaneous speech varies according to circumstances and is often influenced by

the child's own reading behavior (p. 47). This reading behavior, and behavior in general, could be due to a child's environment. They did note that during reading times with personalized materials the "child's speech was predominantly self-referential, or relating [to] the topic of conversation of self" (p. 47).

Authors have described the literacy related outcomes of personalized books with a child's increased spontaneous speech, authors and research experts have also found positive correlations between personalized books and a child's ability to self-reference.

Literacy Related Outcomes: Self-Referencing

Self-referencing is described by Kucirkova et al. (2014) as the use of a name or pronoun (e.g. "that's me") (p. 47). Self-referencing can draw attention to the story and can connect young children to the context of the book. According to the authors (2014), an educator's motivation for focusing on self-referencing can stem from two propositions: self-referencing for students can involve learning mechanisms that support children's retention of new information, and that self-referencing can be facilitated or inhibited in relation to specific situational contexts (p. 47).

Research by Axelsson, Dawson, Yim, and Quddus supports the theory that a child's attention increases when there are instances of self-referencing (2018). Axelsson et al. (2018) explored the relationships with 3-year-old children's retention of novel words and novel words when self-referencing was introduced. After the research was completed, it was determined that "when it comes to toddlers' retention of multiple novel words... there is an increase of memory of novel words when self-referencing was used" (2018). Axelsson et al. (2018) helped prove that children are able to remember words and phrases when personalization of academic material is used.

Students who have access to personalized reading curriculum could have a higher chance of retaining vocabulary (Axelsson et al. 2018). Changing the way that students engage with reading materials not only has the potential to improve their academic success. Kucirkova et al. (2014) also theorized that personalized reading materials also engages students on a higher level. Both authors believe that personalized materials are beneficial for students, both in their academic success and emotional success.

Conclusion

This chapter has provided an overview of the works of several professionals in the areas of core vocabulary, PECS, personalized books along with literacy outcomes. It also provides an overview of core vocabulary and how it can be used in a classroom setting in combination with PECS, as well as the strengths of using personalized books. There is a connection between the use of personalized books and positive literacy outcomes for students including the potential for increased spontaneous speech and identification of self while reading. This capstone's research question, *what are the attributes of personalized books that could help students in a special education setting acquire core vocabulary*, investigates the connection between the attributes of personalized books and the acquisition of core vocabulary in a special education setting. The goal of this research was to provide a link between personalized materials and growth in students' vocabulary.

The research provided in this literature review was guided by the research question: *what are the attributes of personalized books that could help students in a special education setting acquire core vocabulary?* Chapter three will detail the demographics and classroom included in the study, as well as explain the methods and design of implementing personalized books.

CHAPTER THREE

Project Description

Chapter Overview

Being a teacher for the first time during the 2017-2018 school year at a special education federal four school district in the upper Midwest came with many struggles but also many triumphs. The students that fill my classroom are kindergartners through 2nd graders with primary disability category of autism with a secondary disability category of emotional behavior disorder (EBD) or speech-language diagnosis. Many of my students are nonverbal or are early communicators that need additional assistance to acquire language and use it functionally.

In my classroom, I utilize Universal Core Vocabulary boards, that have been pictured in Chapter Two, along with the use of Picture Exchange Communication Systems, PECS, for students' communication needs. The use of pictorial communication systems was overall successful; however, my students still needed an additional way to learn how to use their PECS. To fulfill this need, my project has focused on making books that utilized core vocabulary. My research question, *what are the attributes of personalized books that could help students in a special education setting acquire core vocabulary*, is focused on creating personalized core vocabulary books for students in a special education setting.

My project focused on using seven of the 36 core vocabulary words to create personalized books for students that I work with. My students are in the beginning stages of acquiring language, so the books that were created reflect their current and projected skills. As the creative process begins, it is important to keep in mind the correct amount of personalization

that should go into each book as well as the addition of any personalized situations that should be included. Personalization of the books will include pictures of the students doing an activity or including their favorite things like food, activities or people. The books submitted for the project do not include student photos as each student's identity needs to be protected. There are five core vocabulary books, each including between two and four core vocabulary words.

Chapter Three provides a theoretical framework of the project, a description of the setting and participants, a description of the project, and finally the project timeline.

Theoretical Framework

Chapter Two focused on the explanation of core vocabulary, the use of a pictorial based communication training for individuals with Autism Spectrum Disorder (ASD), and the role of personalized books in students' literacy gains. Cannon and Edmond (2009) described a strategy for teaching and implementing core vocabulary using a simple single page presentation of core vocabulary words. They described how they stick to a simple single page design when presenting core vocabulary words (p. 22). In my classroom, students have access to their core vocabulary boards either on a single sheet board on their desk or on a 36 voice output button board on their Ipad.

Personalization was also something that was found to be important in the development of children's books and in core vocabulary books. Haussler (2017) wrote in her blog about two important benefits of using personalized children's books. Haussler's first noted benefit is related to self-esteem. She mentions how personalized children's books can build self-esteem and boost confidence:

. . . in seeing themselves as the star of the story, they are assured or reassured that they are important. And, as they see themselves taking on these adventures they believe that they can do great things and overcome obstacles that they may face. It gives them the little boost they need to remember that they are special! (p. 2)

The second benefit of personalized storybooks is the encouragement of reading (Haussler, 2017). In her blog, she notes how motivation and interest in reading increase when children see their name in stories. Seeing this, students could be encouraged to read more often, improving their reading skills. In the following section is a description of the unique setting and students in which the books are aimed towards.

Setting and Audience

I teach special education in a federal four setting school in the Upper Midwest. A federal four setting school means that the students in attendance spend 50% or more of their school day at our school setting. All of our students at our school have an individualized education plan or IEP. They also have a behavior intervention plan or BIP and the majority of our students have an emergency behavior intervention plan or EBIP. The formation of behavior plans is aimed at having a consistent approach to addressing a student's behavior and are in place to keep the student safe and the staff that work with our students safe.

Our school is set up differently than a regular public school. The first difference people usually notice when coming to our school is the doors. When entering or exiting our school, individuals need to use a key fob to get out. When navigating our school building, you also need a key fob to get into classrooms, special areas like gym and art, or into any offices. This was done with mindfulness as if a student elopes from a classroom or area of the school for whatever

reason, a student cannot get back into the area that they were previously in. This minimizes disrupted learning to other students. Once the student is under control of their body, they can be let back into the area with assistance from staff.

The neighborhoods, as our school calls them, spread out into different hallways from the main hallway. Each neighborhood has a semi-specific population that they serve, one neighborhood serves older students with EBD, another serves elementary students with EBD, the third serves a combination of students on the autism spectrum and EBD, and the final neighborhood serves students on the autism spectrum. I work in a neighborhood that serves students with autism. While it seems like the school is split up, our thought process for all students is, “every student is my student” meaning that even though a student may not be in our specific classroom, if they need attention or assistance, anyone will come help.

In addition to the neighborhoods serving different groups of students, our school is also set up with the sensory needs of students in mind. Each neighborhood has four to five small rooms that students can access if they are feeling dysregulated or need a break. Along with these rooms, the neighborhood includes other rooms such as a room with a swing, a group work room, and a room with adjustable lighting and music for relaxation.

Another unique part about the structure of my school is the abundance of natural light within the classrooms and hallways. Classrooms have large windows with adjustable shades and each classroom has sound panels to combat noise levels; students are able to feel calm and secure within each classroom. If students need an additional workspace or a break from the classroom, they can choose to sit inside the classroom breakout space on a bean bag or mat.

My school’s particular site serves students from kindergarten to 6th grade, but the district as a whole serves kindergarten age students to 21 years old. We partner with 14 area school

districts to provide services to their students that they otherwise could not provide because of lack of space, staffing, or building set up.

The students in my class are considered early communicators as they are either nonverbal, echolalic, or just acquiring language. To support their language development, students have visual supports, and augmentative and alternative communication devices are used, such as Proloquo2go, GoTalk, Dynavox, or the Picture Exchange Communication Systems (PECS).

The makeup of my classroom includes myself and three educational assistants instructing six students as of October 2018. The ratios for staff to students are much different from a regular special education program as we have on average 1:2 for staff to students. Some students require 1:1 support or even 2:1 support to manage self-regulation, behaviors, and daily living skills.

In the following paragraphs, I describe my project in detail, and how the books that are to be created could be presented to students.

Project Description

My capstone project is creating a set of books that provide instruction on core vocabulary and can be personalized to student likes, dislikes, and communication goals. Each book will focus on two to four core vocabulary words in a real-life application. For instance, using the words, “same” and “different” to show things that are the same and are different is a skill that my students need to acquire. Teaching the words and concept of “same” and “different” while incorporating the use of the core vocabulary board and pictures could enhance my student’s knowledge of words.

Using a technology platform, pictures of students were inserted along with a story focusing on a selected core vocabulary word. The books have a clear focus on core vocabulary and include a connecting word to facilitate a short sentence. Pictures are included to grab students' attention.

After creating the books, staff can present the books to students in a large group setting during shared reading or on an individual one on one setting. Students will each have a copy of the book along with seeing the book displayed on the SmartBoard. Staff model the core vocabulary words on a communication device (Ipad) and while asking students to model the words on their communication device.

Timeline

After completing course work in the Summer of 2018, which included drafting Chapter One and Chapter Two, I continued to identify resources and completed revisions of my chapters. During January 2019, I reflected on which of the 36 core vocabulary words should be selected to go into the core vocabulary books. In February and March of 2019, I worked with my peer review team to refine and develop Chapter Three and Chapter Four. Work also began on developing my books. The first book took me approximately two hours to make, but as the process went on with making more books, I was able to make one book in about an hour. Through the month of April, I worked on editing my resource page, writing an abstract, and creating the in-class presentation. The project was submitted with all course work requirements by the last week in April 2019.

Conclusion

This chapter explained the process by which I created my capstone project. Using a variety of methods and research, best practices were used to construct personalized vocabulary books for students in a special education setting. Personalized learning environments are found to increase a students level of engagement and motivate students to participate in activities that they otherwise would not have (Hartley, 2007). Chapter Four focuses on the conclusions that I have come to about my capstone project. These conclusions include information learned, a brief summary of the literature Review, implications and limitations of my project, and how my project can benefit the profession of teaching.

CHAPTER FOUR

Conclusion

Introduction

When I began teaching in 2017 at the age of 21, my plan was not to begin a Master's program. Being new to the profession of teaching, I felt as though there was little that I could

contribute to the field. As it was, my world was swirling with new responsibilities, new curriculum to learn, and new students to get to know and understand. By the end of my first year of teaching, I was happily surprised by how much I had grown as a teacher and the amount of information that I wanted to know before the next school year began. My realization was that I did have something to contribute to the field of education!

During the Summer of 2018, the process of brainstorming ideas for my capstone project began. At first I went back to my preconceived notion that a new teacher did not have anything to contribute, but as the process continued, I thought about a policy or academic topic that I wanted to improve or change within my classroom or school. Because the population that I work with has significant communication needs, I started my process there. My school utilizes a variety of communication strategies with students like Picture Exchange Communication Systems, PECS, communication apps on Ipads, and sign language. In response to these strategies, my capstone focuses on the development of core vocabulary books to further enhance and develop my students' understanding of core vocabulary and their ability to use the core vocabulary board.

Chapter Four focuses on my project as a whole as well as serving as a reflective narrative of my project. My reflections include what has been gained from completing this project, a summary of Chapter Two's literature review, the implications and benefits to the occupation of teaching, as well as a conclusion to my project.

In the following paragraphs, I describe the immense amount of information that I have learned from completing my capstone project.

Information Gained Through the Research Process

My capstone project focuses on the uses of core vocabulary words with students who are developing their language skills in a special education setting. Core vocabulary is something that I am familiar with, but other educators may not be. Cannon and Edmond (2009) described core vocabulary as a set of 36 unchanging words that are used across an individual's environment. Core vocabulary words make up approximately 80% of the words that we use in daily communication, in other words, core vocabulary words are highly used and are able to communicate a variety of needs, wants, phrases, and rejections. Core vocabulary words contain all parts of speech such as nouns, pronouns, verbs, adjectives, etc. Examples of core vocabulary words and how they are organized can be found in Chapter Two. Core vocabulary is utilized in the setting and school where I teach. All students with communication goals in their Individualized Education Plan (IEP) have access to core vocabulary and use it to communicate. Though core vocabulary had previously been used and implemented in my classroom, there was still much to learn. One of the more useful pieces of information that was learned from my research of core vocabulary was that when setting up a low-tech communication binder for a student, “core vocabulary should always be on the left side of the page with content vocabulary on the right side of the page” (Cannon and Edmond, 2009, p. 22). Arranging the words and materials in this manner allows the student to have immediate access to their words. Cannon and Edmond (2009) describe how presenting core vocabulary and content words in this way can help students begin to understand and use different language forms and construct sentences in addition to communicating their needs, wants, and academic responses. After reading and processing this information, I began to change how my student’s communication binders looked. I made sure to print out core vocabulary and content words as instructed by Cannon and Edmond

(2009). It was not an instant improvement, but a few weeks after the adjustment, my students began to master the new system, and it did eventually lead to increased communication.

Another important side to my research was briefly learning about motor movements and core vocabulary board set-up. When the content and core vocabulary words are always in the same place, students are better able to plan their sentences and thoughts because they will know where their needed words are. If a teacher were to move around the words on the core vocabulary board, students communication would be impeded. A high level of consistency with all communication devices allows students to be quicker, more efficient communicators.

Expand? how buttons need to be in the same place- and how I noticed this necessary change

Through the process of developing my capstone and project, I have realized a few things about myself; one is that we all have so much to contribute to the world around us. It does not matter if you have been in the field 20 years or three months, we all can contribute to our fields. Additionally, I now have more confidence to research and implement different practices within my classroom, which is quite empowering. While learning more about core vocabulary and personalized books, I was able to help other colleagues improve their core vocabulary instruction. I feel more empowered and confident to implement and develop additional strategies in my own classroom.

Teachers are lifelong learners, and I believe through this process of developing my project, I am part of the club of being a lifelong learner. In the following section, a summary of what literature states about core vocabulary is provided, as well as an explanation of personalized books, and various strategies in the world of special education.

Summary of Literature Review

Chapter Two focused on the literature and research around core vocabulary, Picture Exchange Communication Systems (PECS), Autism Spectrum Disorder (ASD), and personalized books; specifically the benefits and deficits of such books when used with students with Autism. In the following paragraphs, I provide a brief summary of the key points of my research and resources found.

Core vocabulary is a strategy that is highly utilized within the setting in which I teach. Students access their core vocabulary boards in a variety of modes, such as low tech applications, paper copies, in Picture Exchange cards, and on their Ipads through a communication app. Core vocabulary is described by Cannon and Edmond (2009) as a set of 36 unchanging words that are used across an individual's environment. Core vocabulary is very versatile as it includes all parts of speech and can convey a variety of wants, needs, and rejection statements. Core vocabulary is a fundamental communication concept as it can be used to enhance a student's communication and language learning. When implementing core vocabulary within a classroom or therapy setting, the practitioner must keep a few things in mind; core vocabulary must be provided with necessary content words and the arrangement should be done in a certain way. Cannon and Edmond (2009) describe the set up as follows, "the page containing core vocabulary words should always be on the left side of the page and the content words for a particular setting should always be on the right side of the page." (p. 22). By arranging the materials in this way, students will always have immediate access to core vocabulary words and content words like bathroom, food choices, or academic vocabulary. Through my research, I found that displaying core vocabulary and content words in this way students would be better

able to construct sentences to communicate their wants, needs, and academic responses (Canon and Edmond, 2009, p. 22).

Core vocabulary words are displayed on an Universal Core Vocabulary Board, which is pictured below. The board includes the full set of 36 core vocabulary words and it is best practice to present all 36 words to students as it will allow for a wider variety of communication phrases.

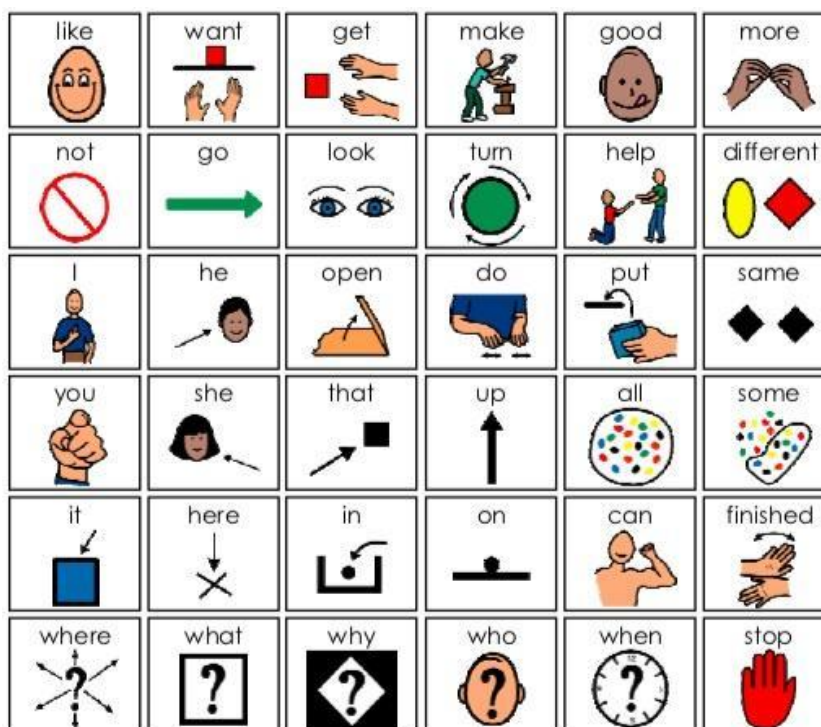


Figure 1. Example of the 36 location Universal Core vocabulary communication system represented by Picture Communication Symbols© by Mayer-Johnson. Used with permission.

Core vocabulary is a highly used strategy within special education and many students can benefit from utilizing the board. Many times core vocabulary boards are used with Picture Exchange Communication Systems (PECS), in the following section I will summarize my findings about PECS.

The Picture Exchange Communication Systems, or PECS, is a behaviorally based pictorial communication system designed for students with social-communicative deficits

(Flippin et al., p. 179). Core vocabulary and PECS are often used together as they provide a wider array of communication opportunities for individuals, since they are able to express more requests and comments. PECS training with students is described by Bondy and Frost (1994) as, “teaching children to give a picture of the desired item to a communicative partner in exchange for that item. By doing this, the child is initiating a communicative act for a very concrete item within a social context” (p. 3). Students are often promoted to give pictures for items they would like as this shows that communicating one’s needs and wants can be a positive experience where the child gains what he or she would like. Confidence in communicating can increase when using PECS as they realize that pictures and phrases have meaning.

PECS are a great way to get children to communicate their needs and wants with others. Combining PECS and core vocabulary has been shown to increase a student’s communication, this includes students with Autism. In my research, I explored how PECS and Autism coincide with each other.

Autism has three core characteristics that include deficits in social relationships and interactions, communication, and restrictive, repetitive and stereotyped behaviors. A delay in language can be an early and persistent marker of Autism. Flippin et al. (2010) estimates that approximately 25% of children with Autism do not develop functional speech. Because of this, the need for early and effective communication training for children with Autism is clear (Flippin et al., 2010). In the world of Autism, special education, and therapies for Autism there is a wide variety of different communication strategies available. This is understandable as clinicians are often faced with a trial and error period of selecting the right communication strategy for their client. Some strategies and ideas about how to teach children with Autism to communicate are not best practice and have not been widely studied. It is important for clinicians

to follow the current best practices for their clients. Another difficulty with autism and communication, as Flippin et al. (2010) describes in their article, is that the variability in language outcomes for children with ASD makes it difficult to predict which children will go on to develop speech and which students will require the use of Augmentative and Alternative Communication devices such as an iPad with a communication app. In addition to knowing which students will develop language, there is also the question of whether or not students will positively respond to different interventions, like PECS or core vocabulary. As Flippin et al. (2010) noted, “To date, there are no clear guidelines for clinicians in determining which communication strategy is likely to be effective for individuals with Autism.”

The literature and research that was reviewed as Chapter Two was beneficial to the creation of my capstone project, and the core vocabulary books. Many of the articles that were found I passed along to other colleagues within my building as I felt the implementation of core vocabulary and PECS would also benefit their teaching. In the following section, implications to the profession are reflected on.

Implications for the Profession

The significance and implications of my project extend beyond my classroom. During the few short months in which my capstone project has been developed, I have found that core vocabulary and pictorial based communication systems are part of the best practice systems when supporting students with communication needs. Utilizing what I have learned from my research, the development of personalized core vocabulary books was started. Through making these books I have opened doors for other teachers and districts to use these books when working with students with communication needs. I feel as though my core vocabulary books have the

potential to impact a wide variety of learners such as learners with autism and learners with developmental and learning delays. The research and development of my books has the potential to affect other students with the development of language acquisition, increasing their independence and ability to communicate.

Supporting students in any setting can at times be difficult. Supporting students in a federal four setting comes with extra challenges. Many of the students that attend our school need additional support in the area of communication. This extra support may include teaching students how to communicate with peers, or social communication, or students may have very limited basic communication skills. Supporting students with communication needs must be done with care and best practices in mind. Providing support to students with communication includes providing them a way to express themselves. In my classroom, I have found that providing core vocabulary boards along with the books I have created, allows students to learn how to communicate.

In the following section, a description of the potential limitations of core vocabulary books in my classroom and in other teachers' and service providers' settings.

Limitations of Project

While there are many benefits to utilizing PECS, core vocabulary and the books that have been created as part of my project, there are also limitations of which practitioners should be mindful. Some limitations of my project's components are PECS. As described in Chapter Two, PECS have many benefits for implementation, but like any program, there are potential limitations. The PECS training program can be seen as limiting to one's communication as PECS primarily consists of requests. Students are only trained to "comment" later in the process. As

explained in Flippin et al.'s (2010) article in the *American Journal of Speech-Language Pathology*, comments are defined in the program as responses to adult prompts, learned by shaping and rewards. PECS training does not include steps to specifically guide the child to initiate with picture communication symbols to share interests with others (Flippin et al., 2010, p. 179).

An additional limitation of PECS training is that “other communication functions that develop early among typically developing children, such as protests and refusals, are not directly targeted in PECS” (Flippin et al., 2010, p. 180). This means that although PECS trains students to discriminate between preferred and nonpreferred items, the standard PECS protocol does not provide a built-in method for directly indicating that an item is not wanted.

Other limitations of my project include the way in which my books are designed, since they may not match another teacher's instructional style or another class's needs. The books that I created were made with my students likes and interests in mind as well their instructional level. Though I have plans to tier the books to fit a wider range of students' reading levels, the current books are made to specifically fit my students' reading level.

Though my project has the potential to be limiting to some groups of students, there are many benefits that practitioners can find when using my project content. In the following section, I describe the benefits of my project to the profession of teaching.

Benefits to Profession

When I began teaching, my eyes were opened to the vast amount of resources that exist for teachers. Most of the resources that are utilized in my classroom were created by other teachers. Though I searched for resources as a means of supplementation to the primary

curriculum used in my district, my students still needed additional support in the area of communication. Resources for communication support were few in number and hard to find. Creating communication books would be something that would fill a void within my classroom and potentially others' classrooms. Though the books that I created were different than what I was originally picturing, the books have really helped my students in an area that they desperately needed additional support in. The books are better than I could have ever expected. The books that are finished have and will be used in my classroom and other colleagues' classrooms. Moving forward, I plan to make more books utilizing different core vocabulary words and sentence structures. I am optimistic towards creating additional books because I can see the difference that my books are making in my student's abilities to communicate and understand what they are communicating.

Conclusion

Through the process of this capstone, feelings of empowerment and motivation washed over me. Not only was I fulfilling a goal and dream of mine to write a Master's project, I was also fulfilling a drive to create something meaningful for my classroom. My students are better prepared for communication because of the addition of core vocabulary books in their instructional time. Students from many classrooms will be able to utilize the core vocabulary books to better understand how to communicate with the world around them. From the completion of my project, it has been witnessed that my students have increased their accuracy with using core vocabulary words as well as an increase in the amount of words and phrases that they are saying and know how to say. Core vocabulary has allowed for more conversations in my classroom and in my students homes.

REFERENCE LIST

- Axelsson, E. L., Dawson, R. L., Yim, S. Y., & Quddus, T. (2018). Mine, Mine, Mine:
Self-Reference and Children's Retention of Novel Words. *Frontiers in psychology, 9*,

958. Retrieved from <https://doi:10.3389/fpsyg.2018.00958>
- Cannon, B. & Edmond, G. (2009). A few good words. *ASHA Leader*, 14(5), 20-23. Retrieved from <https://doi.org/10.1044/leader.FTR4.14052009.20>
- Bracker, B. (1982). Effects of personalized basal stories on the reading comprehension of fourth-grade poor and average readers. *Contemporary Educational Psychology*, 7, 320-324. doi: 10.1016/0361-476X(82)90015-7.
- Clendon, S. A., & Erickson, K. A. (2008). The vocabulary of beginning writers: Implications for children with complex communication needs. *Augmentative and Alternative Communication*, 24, 281-293. doi:10.1080/07434610802463999
- Collins, B., Evans, A., Creech-Galloway, C., Karl, J., & Miller, A. (2007). Comparison of the acquisition and maintenance of teaching functional and core content sight words in special and general education settings. *Focus on Autism and Other Developmental Disabilities*, 22(4), 220-233. <https://doi.org/10.1177/10883576070220040401>
- Collins, C., & Leger, P., . Let's talk autism: Learning core language through literacy. Retrieved November 22, 2017. [Powerpoint Presentation sent to me by my school's Speech Language Pathologist.]
- Erickson, K. A. (2017). Comprehensive literacy instruction, interprofessional collaborative practice, and students with severe disabilities. *Am J Speech Lang Pathol*, 26(2), 193-205. doi: 10.1044/2017_AJSLP-15-0067
- Flippin, M., Reszka, S., & Watson, L.R. (2010). Effectiveness of the Picture Exchange Communication System (PECS) on communication and speech for children with autism spectrum disorders: A meta-analysis.(Research)(Disease/Disorder overview). *American Journal of Speech-Language Pathology*, 19, 178.

doi. 10.1044/1058-0360(2010/09-0022)

Geist, L., Erickson, K., & Hatch, P. (2016). Core vocabulary AAC instruction for students with significant cognitive disabilities. In *Using Core Vocabulary during Shared Reading and Guided Reading*(pp. 1-42). Chapel Hill, North Carolina: ATiA.

Kaderavek, J., & Justice, L. M. (2002). Shared Storybook Reading as an Intervention Context. *American Journal of Speech-Language Pathology*, *11*(4), 395-406.

doi:10.1044/1058-0360(2002/043)

Kucirkova, N., Messer, D., & Whitelock, D. (2013). Parents reading with their toddlers: The role of personalization in book engagement. *Journal of Early Childhood Literacy*, *13*(4), 445–470. <https://doi.org/10.1177/1468798412438068>

Kucirkova, N., Messer, D., & Sheehy, K. (2014). Reading personalized books with preschool children enhances their word acquisition. *First Language*, *34*(3), 227–243. <https://doi.org/10.1177/0142723714534221>

Kucirkova, Natalia & Messer, David & Sheehy, Kieron. (2014). The effects of personalization on

young children's spontaneous speech during shared book reading. *Journal of Pragmatics*. 71. 10.1016/j.pragma.2014.07.007.

Marvin, C., Beukelman, D., & Bilyeu, D. (1994). Vocabulary-use patterns in preschool children: Effect of context and time sampling. *Augmentative and Alternative Communication*, *10*, 224-236. doi: 10.1080/07434619412331276930

Pakulski, L. A., & Kaderavek, J. N. (2004). Facilitating literacy using experience books: A Case Study of Two Children With Hearing Loss. *Communication Disorders Quarterly*, *25*(4), 179–188. <https://doi.org/10.1177/15257401040250040301>

- Sheehy, Kieron. (2002). The Effective Use of Symbols in Teaching Word Recognition to Children with Severe Learning Difficulties: A comparison of word alone, integrated picture cueing and the handle technique. *International Journal of Disability, Development and Education*. 49. 10. doi: 1080/10349120120115325.
- Sheehy, K. (2009). Teaching word recognition to children with severe learning difficulties: An exploratory comparison of teaching methods. *Educational Research*, 51(3), 379-391. doi:10.1080/00131880903156955
- Skebo, C. M., Lewis, B. A., Freebairn, L. A., Tag, J., Avrich Ciesla, A., & Stein, C. M. (2013). Reading skills of students with speech sound disorders at three stages of literacy development. *Language, Speech, and Hearing Services in Schools*, 44(4), 360. doi:10.1044/0161-1461(2013/12-0015)
- Snodgrass, Melinda & B Stoner, Julia & E Angell, Maureen. (2013). Teaching conceptually referenced core vocabulary for initial augmentative and alternative communication. *Augmentative and Alternative Communication* (Baltimore, Md. : 1985). 29. 322-333. Retrieved from <https://doi.org/10.3109/07434618.2013.848932>.
- Steele, S. C., & Mills, M. T. (2011). Vocabulary intervention for school-age children with language impairment: A review of evidence and good practice. *Child Language Teaching and Therapy*, 27(3), 354–370. Retrieved from <https://doi.org/10.1177/0265659011412247>
- Tilborg, A. V., & Deckers, S. R. (2016). vocabulary selection in AAC: Application of core vocabulary in atypical populations. *Perspectives of the ASHA Special Interest Groups*, 1(12), 125-138. doi:10.1044/persp1.sig12.125
- Universal Core Communication Systems (2015). Mayer- Johnson. Retrieved June 25, 2018,

from [http:// project-core.com](http://project-core.com)

Vicker, B. (2002). What is the picture exchange communication system or PECS? *The Reporter*,

7(2), 1-4, 11. Retrieved from <http://hdl.handle.net/2022/9115>